

ENGINEERING CHANGE NOTICE

DART AEROSPACE LTD		Amendment Design Review (ADR) Yes/No: Yes		ECN #: 879		
Date: 07.01.18 06.11.21		ADR Date: 07.01.18				
Job No: 00056		Created By: CB		Checked By: LE		
Product No: D412-694		Approved By:		Approved By:		
Product Name: Door Modification Kit		(Proj. Manager)		(Management if reqd)		
Documents Affected: - release D3155 Rev. D - release D3123 Rev. C						
#	Engineering Actions	Yes	No	Responsible	To happen by:	Complete
1	Required Documents/Drawings Under Review?	x		CB	07.06.05	07.06.05 CB
2	Update Blue/Pink Folder/Electronic File		x			
3	Update DSI Folder/Electronic File		x			
4	Update D-Part Master Binder	x		CB/KJ		07.06.06 PJ
5	Update Grey Project Binder	x		CB/KJ		07.06.06 PJ
6	Update DEO/DSI Binder		x			
7	Update Master Document List (MDL)		x			
8	Update Document Record (DR) Rev. I	x		CB/KJ		07.06.06 PJ
9	Update Change Record Form		x			
10	Move Electronic File	x		KJ		07.06.06 PJ
11	Notify TC of Change		x			
12	Notify FAA of Change		x			
13	Update QSI 021 (TC/FAA STC)		x			
14	Update QSI 036 (K-Kits)		x			
15	Update Accpac Database		x			
16	Update Access Database		x			
17	Verification ARC		x			
18	Update STC Approval List		x			
19	Update Product Development Summary		x			
20	Create/Update COSS (Estimate/BOM)	x		JLM/EC		07.06.06 PJ
21	Create/Update PPP's		x			
22	Update Paperwork Kits in Production		x			
23	Update Paperwork Kits in Stock		x			
24	Red Tag Stock with old CHG #		x			
25	Rework/Scrap Current Production		x			
26	Rework/Scrap Kits in Stock?	x		LL		07.06.06 PJ
27	Update Qpulse/Laminated Dwgs		x			
28	Create/Update Controlled PDF Files	x		CB/KJ		07.06.06 PJ
29	Create/Update FAI sheets		x			
30	Create/Update CNC Programs	x		JLM/EC		07.06.06 PJ
31	Create/Update Tooling	x		JLM/EC		07.06.06 PJ
32	MPP required?		x			
33	Notify Previous Customers		x			
34	Notify Eurocopter France		x			
35						
36						
Description / Action: - D3155-1/-2/-041/-042 Brackets in stock must be reworked to ensure the slot is 0.250" +0.005/-0.000 or scrapped - D3123-1 Cams in stock will have to be machined down to 0.248" +0.000/-0.003 per NCR 111 - new D3155-1/-2 CNC program should be made from D3155 Rev. D solid model						

ECN Complete:

Date: 10/02/16

ENGINEERING CHANGE NOTICE

MPP

DART AEROSPACE LTD		Amendment Design Review (ADR) Yes/No: Yes		ECN #: 879
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Job No: 00056		Created By: CB	Checked By: UE	
Product No: D412-694		Approved By:	Approved By:	
Product Name: Door Modification Kit		(Proj. Manager)	(Management if reqd)	07/06/05

Documents Affected:

- release D3155 Rev. D
- release D3123 Rev. C

#	Engineering Actions	Yes	No	Responsible	To happen by:	Complete
1	Required Documents/Drawings Under Review?	x		CB	07.06.05	07.06.05 CB
2	Update Blue/Pink Folder/Electronic File		x			
3	Update DSI Folder/Electronic File		x			
4	Update D-Part Master Binder	x		CB/KJ		07.06.06 PJ
5	Update Grey Project Binder	x		CB/KJ		07.06.06 PJ
6	Update DEO/DSI Binder		x			
7	Update Master Document List (MDL)		x			
8	Update Document Record (DR) Rev. I	x		CB/KJ		07.06.06 PJ
9	Update Change Record Form		x			
10	Move Electronic File	x		KJ		07.06.06 PJ
11	Notify TC of Change		x			
12	Notify FAA of Change		x			
13	Update QSI 021 (TC/FAA STC)		x			
14	Update QSI 036 (K-Kits)		x			
15	Update Accpac Database		x			
16	Update Access Database		x			
17	Verification ARC		x			
18	Update STC Approval List		x			
19	Update Product Development Summary		x			
20	Create/Update COSS (Estimate/BOM)	x		JLM/EC		07/06/05
21	Create/Update PPP's		x			
22	Update Paperwork Kits in Production		x			
23	Update Paperwork Kits in Stock		x			
24	Red Tag Stock with old CHG #		x			
25	Rework/Scrap Current Production		x			
26	Rework/Scrap Kits in Stock?	x		LL		
27	Update Qpulse/Laminated Dwgs		x			
28	Create/Update Controlled PDF Files	x		CB/KJ		07.06.06 PJ
29	Create/Update FAI sheets		x			
30	Create/Update CNC Programs	x		JLM/EC		
31	Create/Update Tooling	x		JLM/EC		
32	MPP required?		x			
33	Notify Previous Customers		x			
34	Notify Eurocopter France		x			
35						
36						

Description / Action:

- D3155-1/-2/-041/-042 Brackets in stock must be reworked to ensure the slot is 0.250" +0.005/-0.000 or scrapped
- D3123-1 Cams in stock will have to be machined down to 0.248" +0.000/-0.003 per NCR 111
- new D3155-1/-2 CNC program should be made from D3155 Rev. D solid model

- 042 = 5 sth
- 041 = 13 sth
2 to scrap only

- 1 = 0 sth
- 2 = 0 sth

WLO
56142

ECN Complete: _____

Date: _____

ENGINEERING CHANGE NOTICE

MPP

DART AEROSPACE LTD				Amendment Design Review (ADR) Yes/No: Yes		ECN #: 879	
Date: 07-01-18 06.11.21				ADR Date: 07.01.18			
Job No: 00056				Created By: CB		Checked By: UE	
Product No: D412-694				Approved By:		Approved By:	
Product Name: Door Modification Kit				(Proj. Manager)		(Management if reqd)	
Documents Affected: - release D3155 Rev. D - release D3123 Rev. C							
#	Engineering Actions	Yes	No	Responsible	To happen by:	Complete	
1	Required Documents/Drawings Under Review?	x		CB	07.06.05	07.06.05 CB	
2	Update Blue/Pink Folder/Electronic File		x				
3	Update DSI Folder/Electronic File		x				
4	Update D-Part Master Binder	x		CB/KJ			
5	Update Grey Project Binder	x		CB/KJ			
6	Update DEO/DSI Binder		x				
7	Update Master Document List (MDL)		x				
8	Update Document Record (DR)	x		CB/KJ			
9	Update Change Record Form		x				
10	Move Electronic File	x		KJ			
11	Notify TC of Change		x				
12	Notify FAA of Change		x				
13	Update QSI 021 (TC/FAA STC)		x				
14	Update QSI 036 (K-Kits)		x				
15	Update Accpac Database		x				
16	Update Access Database		x				
17	Verification ARC		x				
18	Update STC Approval List		x				
19	Update Product Development Summary		x				
20	Create/Update COSS (Estimate/BOM)	x		JLM/EC			
21	Create/Update PPP's		x				
22	Update Paperwork Kits in Production		x				
23	Update Paperwork Kits in Stock		x				
24	Red Tag Stock with old CHG #		x				
25	Rework/Scrap Current Production		x				
26	Rework/Scrap Kits in Stock?	x		LL			
27	Update Qpulse/Laminated Dwgs		x				
28	Create/Update Controlled PDF Files	x		CB/KJ			
29	Create/Update FAI sheets	x		JLM/EC			
30	Create/Update CNC Programs	x		JLM/EC			
31	Create/Update Tooling	x		JLM/EC			
32	MPP required?		x				
33	Notify Previous Customers		x				
34	Notify Eurocopter France		x				
35							
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Description / Action: - D3155-1/-2/-041/-042 Brackets in stock must be reworked to ensure the slot is 0.250" +0.005/-0.000 or scrapped - D3123-1 Cams in stock will have to be machined down to 0.248" +0.000/-0.003 per NCR 111 - new D3155-1/-2 CNC program should be made from D3155 Rev. D solid model <div style="text-align: right;"> D3155-1 D3155-2 D3155-041 10 D3155-042 13 </div> <div style="text-align: center;"> D3123-1 239 (12.97) </div>							

ECN Complete:

Date:

AMENDMENT DESIGN REVIEW (ADR)Part/Installation No.: D3155, D3123 Rev _____ Design Review No: _____ Date: 07.01.18Project Number: D412-694 Project Description/Title: SpacedoorsEng. Project Manager: Christopher Bell

Persons Present	Title	Initial
Serge Shahbazian	Design Manager	
Christopher Bell	Engineering Project Manager	CB
David Shepherd	Chief Engineer (DE #02)	DS
	Manufacturing Manager	
	Quality Manager	
LEANNE ELSLIGER	DESIGN ENGINEER	LE

Comments

Problem - the D3123-1 Cam could not rotate freely in the slot of the D3155-041/-042 Bracket
Cause - a 0.250" cutter is used for the 0.259" slot; large tolerance stackup on drawing for the slot
Solution - D3155 drawing will be revised to Rev. D and a 0.250" dimension and tolerance will be added to the slot
- 0.699" dim will be removed (replaced by 0.250" slot dim)
- a note will be added to the assembly page to ensure the dimension is checked after press fitting the Bushing
- CNC program will be re-done to ensure correct machining
- thickness of D3123-1 will be changed to 0.248 with the same tolerance
- D3155-1/-2 dims and D3123-1 dims were changed and reorganized to make dimensioning easier
- on D3155-1/-2, 0.882 was changed to 0.887 and 3.148 was changed to 3.150
- this was done so that the edge radius is concentric with the Ø0.375 hole and so that the centre of the R3.000 is in line with the edge of the part
- minor design changes and drawing update so approval by DE#02 is acceptable

Key Tasks (Check or N/A)	Check	Responsible	Completion Date
Review Outstanding TSR/NCR/CAR/PAR	N/A		
Fill out Criteria/Constraints Form – Inputs	N/A		
Fill out Project Evaluation Form	N/A		
D-Part creation/revision	Yes	CB	07.06.05 CB
Get Manufacturing Input	Yes	EC	07.06.05 EC
First Article Inspection	N/A		
Fit and Function Test	Yes	CB	07.06.05 CB
Structural Test	N/A		
Reports (Compliance, Loads, Stress, Conformity, DSI)	N/A		
Check Drawings against all QSIs	Yes	CB/DS	07.06.05 CB
Review Criteria/Constraints Form	N/A		
Revision to existing approval	N/A		
Close Amendment Project	Yes	CB	07.06.05 CB

Conclusion:

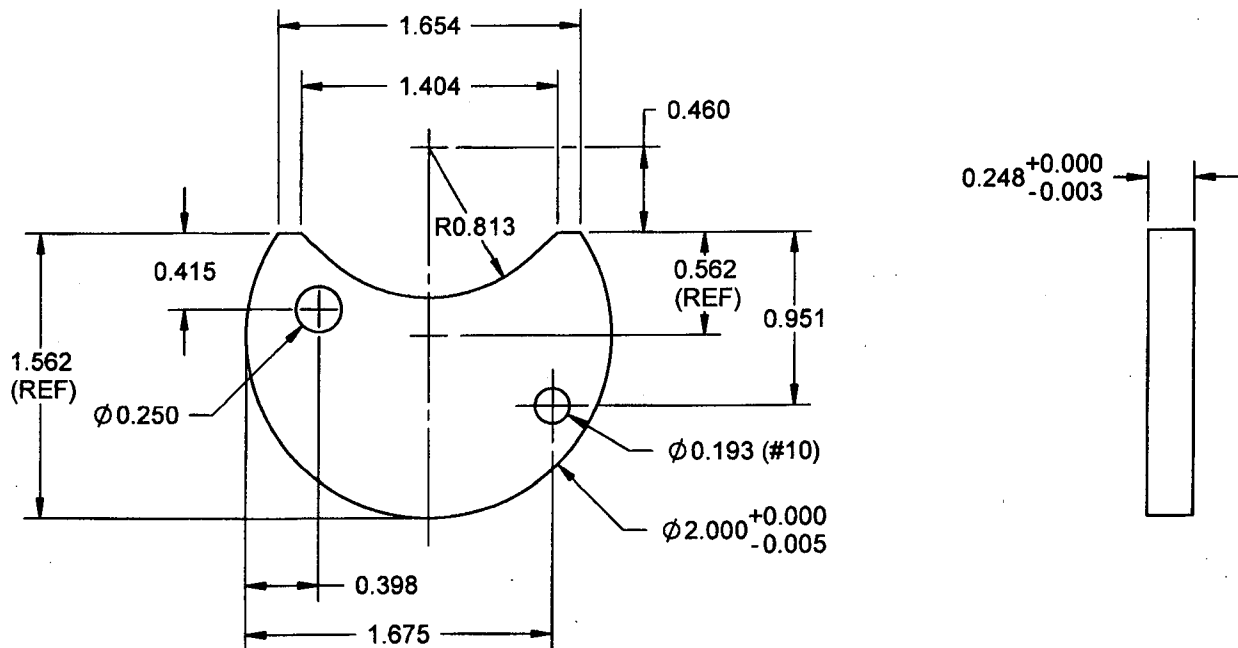
- release D3155 Rev. D and D3123 Rev. C per ECN 879
- reference NCR #111

DART

DESIGN #	DRAWN BY CB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED LE	APPROVED #	DRAWING NO. D3123	REV. C SHEET 1 OF 1
DATE 07.01.18		TITLE CAM	SCALE 1:1
REV	DATE	DESCRIPTION	
A	02.04.15	NEW ISSUE	
B	04.10.18	ADD PART MARKING	
C	07.01.18	RE-ORGANIZED DIMENSIONS; RE-DRAW PART	

RELEASED

07.06.04

**D3123-1 CAM****NOTES:**

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL SHEET PER MIL-S-5019 (REF DART SPEC M304S)
OR AISI 303 STAINLESS STEEL BAR (REF DART SPEC M303B)
OR AISI 303 STAINLESS STEEL ROUND BAR (REF DART SPEC M303R)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 5) POSSIBLE SUPPLIER PREMIER P/N B30-23000-149
- 6) IDENTIFY WITH DART P/N "D3123-1" USING FINE POINT PERMANENT INK MARKER

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ENGINEERING CHANGE NOTICE **DART AEROSPACE LTD**

Date: 08.05.21	Job No.:	ADR Yes/No: YES	ADR Date: 08.05.12	ECN #: 1192
Product No.: D412-694		Created By: <i>MS</i>	Approved By: <i>MM</i>	
Product Name: SPACE DOOR		Checked By: <i>PH</i>	General Manager Approval:	

Distribution	Reqd	Resp	Received	Distribution	Reqd	Resp	Received
Production Manager	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Customer Technical Support			
Production Engineering Coord	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		Marketing			
Director Quality Assurance							
Customer Order Processing							

Reason for Change:

Documents Affected:

D3135 REV D.

#	Engineering Actions	Reqd	Resp	Notes	Complete
1	Required Documents/Drawings Under Review	N			
2	Update Blue/Pink/DSI Folder and Electronic Files	N			
3	Update D-Part/M-Drawing/DSI/DEO Master Binders	Y	KJ		08.05.22 <i>PH</i>
4	Update Grey Project Binder	<input checked="" type="checkbox"/>	<i>KJ</i>		08.05.22 <i>PH</i>
5	Move Electronic Files	Y	KJ		08.05.22 <i>PH</i>
6	Update Master Document List (MDL)	N			
7	Update Document Record (DR) <i>Rev J</i>	Y	KJ		08.05.22 <i>PH</i>
8	Create/Update Change Record Form	N			
9	Create/Update PPP's	N			
10	Update Controlled PDF Files	Y	KJ		08.05.22 <i>PH</i>
11	Notify TC/FAA of Change	N			
12	Update QSI 021 and/or STC Approval List	N			
13	Update Product Development Summary	N			
14	Update Accpac Database	N			
15	Update Access (ARC) Database	N			
16	Update/Verify ARC	N			
17	Update Paperwork Kits in Production	N			
18	Update Qpulse/Laminated Dwgs	N			
19	Update Product Compatability Matrix	N			
20	Create Eurocopter Form (FEE)	N			
21					

#	Production Actions	Reqd	Resp	Notes	Complete
22	Create/Update Coss IPP/BOM	Y	DD/EC	AS REQUIRED	
23	Update FAI Sheets	<input checked="" type="checkbox"/>	DD/EC	AS REQUIRED	
24	Create/Update CNC Programs	Y	DD/EC	AS REQUIRED	
25	Create/Update Tooling	Y	DD/EC	AS REQUIRED	
26	Red Tag Stock (Specify)	N			
27	Rework/Scrap Current Production and/or Stock	N			
28	Update Paperwork Kits in Stock	N			
29	Create/Update MPP	N			
30					

#	Quality Assurance Actions	Reqd	Resp	Notes	Complete
31	Notify Previous Customers				
32	Notify Eurocopter France				
33					

Description / Action:

RELEASE REV D.